8. Lucie

Program Name: Lucie.java Input File: lucie.dat

The UIL Computer Science team needs your help! They have contest program scores stored where one row of data contains each of the team scores for a single program as shown below:

	Team 1	Team 2	Team 3	Team 4
Program 1	60	55	60	60
Program 2	55	45	0	60
Program 3	0	50	55	60

The UIL Computer Science team needs the data in the following form:

	Program 1	Program 2	Program 3
Team 1	60	55	0
Team 2	55	45	50
Team 3	60	0	55
Team 4	60	60	60

The above process is known as transposing rows and columns; rows become columns and columns become rows. In addition to transposing the raw data, the UIL team has also asked to get row and column totals as shown below:

	Program 1	Program 2	Program 3	Total Score
Team 1	60	55	0	115
Team 2	55	45	50	150
Team 3	60	0	55	115
Team 4	60	60	60	180
Totals	235	160	165	

Input: The first line of the data file contains one positive integer, the number of contests or data sets $S \leq 20$. Each set of data then contains one line with two positive integers separated by a comma, the number of teams T and the number of programs P. The input continues with T lines of P integer scores separated by commas. The largest contest has a maximum of 50 teams with a maximum of 12 programs. Scores range from 0 to 60.

Output: For each contest, output a list of values for each team with a total score as the last item on the line. Then output one line containing the totals for each program. All output lines must separate the values by exactly one comma. Following the data for each contest, display a line containing exactly 12 asterisks "**********".

Sample input:

```
2
3,4
60,55,60,60
55,45,0,60
0,50,55,60
5,3
50,60,55
60,0,50
0,50,60
55,45,60
50,60,0
```

Sample output:

```
60,55,0,115
55,45,50,150
60,0,55,115
60,60,60,180
235,160,165
**********
50,60,0,55,50,215
60,0,50,45,60,215
55,50,60,60,0,225
165,110,110,160,110
**********
```